

ICS 43.020
CCS T 04



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 29123-2025

Replacing GB/T 29123-2012

**Technology specifications for the operation and storage of fuel
cell electric vehicles**

燃料电池电动汽车运行和存放技术规范

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Foreword	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Basic conditions	7
4.1 Vehicles	7
4.2 Supporting facilities	7
4.3 Management system	7
5 Vehicle operation	7
5.1 Vehicle starting	7
5.2 Vehicle driving	7
5.3 Vehicle parking	7
6 Vehicle transport	8
6.1 Remaining hydrogen	8
6.2 Loading	8
6.3 Transportation	8
6.4 Unloading	9
7 Vehicle parking and storage	9
7.1 Daily parking	9
7.2 Long-term storage	9
8 Vehicle refueling	9
9 Vehicle maintenance	9
10 Emergency measures	10
11 Vehicle manual	10

1 Scope

This document specifies the basic conditions, vehicle operation, vehicle transport, vehicle parking and storage, vehicle fueling, vehicle maintenance, emergency measures and vehicle manual requirements for fuel cell electric vehicles.

This document applies to fuel cell electric vehicles (hereinafter referred to as "vehicles")

that use compressed gaseous hydrogen as fuel and have an on-board hydrogen system with a nominal operating pressure not exceeding 70 MPa.

2 Normative references

GB/T 24548

GB/T 24549

GB/T 26990

GB/T 29124

GB 50516

3 Terms and definitions

For the purpose of this document, terms and definitions given in GB/T 24548, GB/T 29124 and GB 50516 apply.

4.1 Vehicles

The safety of the vehicle shall meet the requirements of GB/T 24549, and the onboard hydrogen system shall meet the requirements of GB/T 26990.

4.2 Supporting facilities

Hydrogen fuelling stations, parking lots, maintenance workshops and other supporting facilities shall meet the requirements of GB/T 29124.

4.3 Management system

The management system shall include a complete personnel organization and management system, safety management system, safe operating procedures, production safety responsibility system, risk management system, etc.

5.1 Vehicle starting

All mechanical connections to external facilities shall be disconnected before starting the vehicle.

Vehicle starting shall be checked and operated according to the procedures specified by the manufacturer.

5.2 Vehicle driving

The hydrogen concentration in the vehicle shall comply with the requirements of GB/T 24549.

If any unexpected behavior or failure occurs during driving, such as a significant reduction in the driving power of the power system, an alarm or failure of the hydrogen leak alarm device, etc., the vehicle shall be able to send a clear signal to the driver, and the driver shall operate in accordance with the requirements of the manufacturer or operator.

5.3 Vehicle parking

After the power source is cut off, the vehicle shall not produce any unexpected movement caused by its own propulsion system.

6.1 Remaining hydrogen

The remaining amount of hydrogen in the hydrogen storage tank of the onboard hydrogen system shall meet the driving range requirements during the transport process.

When the vehicle is in a closed or semi-closed transport scenario such as a container or ship hold, the remaining hydrogen in the hydrogen storage tank of the onboard hydrogen system shall meet one of the following requirements.

- a) The remaining pure hydrogen driving range does not exceed 50 km;
- b) The state of charge (SOC) of the hydrogen storage cylinder does not exceed 10%.

Note. The state of charge (SOC) of a hydrogen storage cylinder refers to the ratio of the hydrogen density in the vehicle-mounted hydrogen storage cylinder to the density of hydrogen at the nominal working pressure and 15 °C.

6.2.1 Vehicles shall be loaded in a well-ventilated area that meets relevant fire protection requirements.

6.2.2 Before loading, the condition of the transport vehicle shall be checked.
Transport

vehicles with abnormal conditions such as damage, defects, deformation, etc. shall not be used.

6.2.3 When loading, the vehicle shall be secured using tie-down straps, blocks or its own structure, and the securing strength shall meet the safety requirements of the relevant mode of transport. Operators shall follow the instructions of on-site commanders and control the vehicle speed when entering the loading space. When using other equipment loading modes, the hydrogen storage cylinders shall not be damaged, and the vehicle shall not be damaged during the fastening process.

6.2.4 After loading, the vehicles shall be turned off and a safe distance shall be maintained between vehicles and between the vehicle and the inner wall of the loading equipment.

6.3.1 Closed or semi-enclosed spaces such as cabins or containers used for transporting

vehicles shall have necessary ventilation measures to ensure that the hydrogen gas volume fraction in the environment does not exceed 1%.

6.3.2 Static elimination measures shall be taken on the transport vehicles used for

transshipment.